

Appl. No. 10/593,757  
Reply to Office Action mailed February 5, 2008

RECEIVED  
CENTRAL FAX CENTER

APR 16 2008

R E M A R K S

Claim 1 was amended by including a feature of claim 5.

Withdrawn claims 7 to 9 were canceled. Applicants reserve their rights under 35 USC 121 to file a Divisional application directed to claims 7 to 9.

Claims 4, 10, 11 and 14 to 16 were rejected under 35 USC 112, second paragraph, for the reasons set forth at the top of page 2 of the Office Action.

Claims 4, 10, 11 and 14 to 16 were canceled hereinabove. Accordingly, the 35 USC 112, second paragraph rejection is now moot.

Claims 1, 3, 6, 13 and 17 were rejected under 35 USC 102 as being anticipated over JP 2002-047208 (Akiya et al.) for the reasons stated on pages 3 to 4 of the Office Action.

Claim 5 was not included in the 35 USC 102 rejection. As noted above, applicants' present claim 1 recites the feature of claim 5 that the organic peroxide is an imidazole derivative.

As admitted on page 6, lines 1 to 2 of the Office Action, Akiya et al. do not disclose or suggest any organic peroxides that are imidazole derivatives.

Appl. No. 10/593,757  
Reply to Office Action mailed February 5, 2008

Withdrawal of the 35 USC 102 rejection is therefore respectfully requested.

Claims 5, 12 and 18 to 19 were rejected under 35 USC 103 as being unpatentable over JP 2002-047208 (Akiya et al.) in view of Kimura et al., ITE Letters on Batteries, New Technology, Vol. 1, No. 3, pp. 418-421, (2000) for the reasons set forth on pages 4 to 8 of the Office Action.

It was admitted in the Office Action that Akiya et al. do not teach the use of any of the specific compounds recited in applicants' claim 18.

Akiya et al. teach that an organic peroxide capable of generating singlet oxygen is used for treating cancer. However, Akiya et al. do not teach or suggest that a peroxide of an imidazole derivative is capable of generating singlet oxygen. In addition, applicants' have informed the undersigned that it is not deemed to be of technical common knowledge that a peroxide of an imidazole derivative is capable of generating singlet oxygen.

Kimura et al. disclose only that peroxides of imidazole derivatives emit chemiluminescence. Kimura et al. do not teach or suggest that these peroxides are capable of generating singlet oxygen.

Appl. No. 10/593,757  
Reply to Office Action mailed February 5, 2008

RECEIVED  
CENTRAL FAX CENTER  
APR 16 2008

It is therefore respectfully submitted that one of ordinary skill in the art would not consider to combine Akiya et al. and Kimura et al. to attempt to arrive at applicants' present claims. Moreover, even assuming *arguendo* that Akiya et al. and Kimura et al. were combined by a person of ordinary skill in the art, it is respectfully submitted that such person would not arrive at applicants' present claims.

Special attention is directed to applicants' claim 18.

With respect to applicants' present claim 18, the compounds recited therein are not disclosed or suggested in Kimura et al.

The first compound of applicants' present claim 18 corresponds on its face to the compound 2b in Kimura et al. However, Kimura et al. state that "the oxidation of 1b did not give 2b" (see page 419, left column, lines 3 and 4). Kimura et al. thus expressly state that compound 2b was not prepared.

Compound 2b is thus not enabled by Kimura et al. (In re Wiggins, James and Gittos, 179 USPQ 421,425 (CCPA 1973); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 227 USPQ 657 (Fed. Cir. 1985)).

Further, applicants' present claims provide unexpected advantages over those disclosed in Akiya et al. Akiya et al.

Appl. No. 10/593,757  
Reply to Office Action mailed February 5, 2008

state that increasing the temperature of an affected area of a patient with external irradiation is effective for promoting decomposition of the peroxide (see paragraph [0007]). In

contrast thereto, the peroxides of imidazole derivatives as recited in applicants' present claims simultaneously generate both heat and singlet oxygen, and thus can effectively generate singlet oxygen without heating the affected area externally. Such advantages of applicants' present claims are specifically supported by Table 2 of the present specification, which shows that the compounds for use in applicants' present claims generate a reaction heat of about 20 to 90 kcal/mol simultaneously with generation of singlet oxygen.

Table 2 on page 25 of the present specification is reproduced as follows:

Appl. No. 10/593,757  
 Reply to Office Action mailed February 5, 2008

Table 2

Entry	Solution Reaction heat <sup>a</sup> / kcal/mol	Yield of imidazole <sup>a</sup> %	Solid reaction heat / kcal/mol	Solid reaction imidazole yield %	Relative amount of chemiluminescence <sup>b</sup>
Chemical formula A	53.8	13	18.7	45	1
Chemical formula B	66.3	~0	61.0	~0	160
Chemical formula C	... <sup>c</sup>	... <sup>c</sup>	53.6	... <sup>c</sup>	1.02
Chemical formula D	... <sup>c</sup>	... <sup>c</sup>	47.6	... <sup>c</sup>	0.232
Chemical formula H	46.0	3	35.3	~0	1.6
Chemical formula I	... <sup>c</sup>	... <sup>c</sup>	91.4	... <sup>c</sup>	0.58
Chemical formula J	48.7	49	52.3	50	0.60
Chemical formula K	22.4	58	15.0	55	~0
Chemical formula L	54.0	~0	50.5	~0	2.2

- a) Reaction was started with 1N KOH/MeOH
- b) Relative luminescence efficiency while Chemical formula A is defined to be 1 for reference.
- c) No measurement.

Appl. No. 10/593,757  
Reply to Office Action mailed February 5, 2008

RECEIVED  
CENTRAL FAX CENTER  
APR 16 2008

Withdrawal of the 35 USC 103 rejection is thus respectfully requested.

Reconsideration is requested. Allowance is solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,

Frishauf, Holtz, Goodman  
& Chick, P.C.  
220 Fifth Ave., 16th Floor  
New York, NY 10001-7708  
Tel. No.: (212) 319-4900  
Fax No.: (212) 319-5101

  
\_\_\_\_\_  
Richard S. Barth

REG. NO. 28,180

E-Mail Address: BARTH@FHGC-LAW.COM  
RSB/ddf